BOULDER 3 FIRE-RESCUE STATION

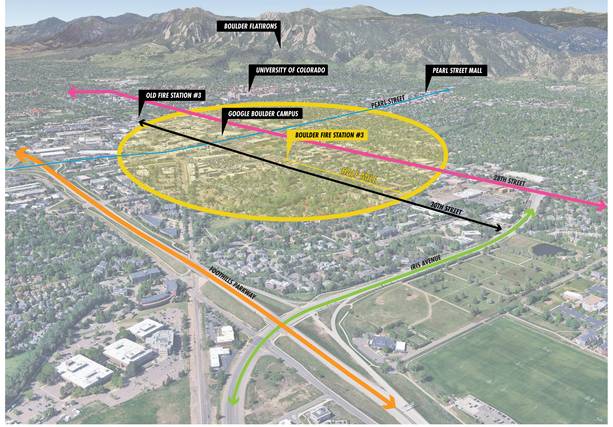
PROJECT DETAILS

SIZE - 28,000 sf
COMPLETION DATE - October 2024
CONSTRUCTION COST - $23 Million
LOCATION - 2875 30th St, Boulder, CO 80301
CLIENT - Boulder Fire-Rescue Department & City of Boulder

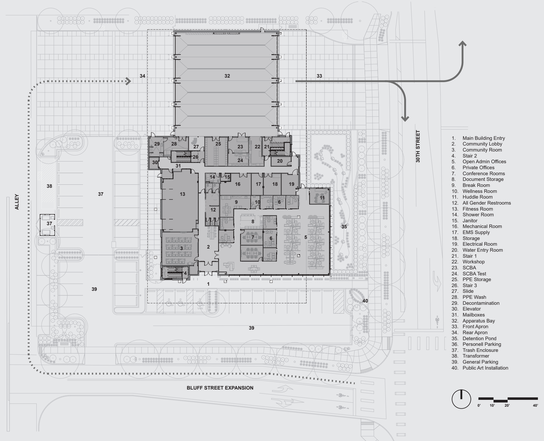
PROGRAM SUMMARY

Fire Station #3 in Boulder, Colorado is designed to serve a growing and increasingly dense area of the city, with the primary goal of reducing emergency response times. The facility includes 22,000 square feet dedicated to core fire station operations and 6,000 square feet for fire-rescue administration. The station features four apparatus bays along with adjacent workspaces to support the storage, maintenance, and cleaning of critical firefighting equipment. Living quarters include bunks for 12 firefighters, accommodating three full crews, as well as kitchen, dining, day-room, outdoor patio, and fitness areas to support their living needs while on active shifts. This modern, full-service fire-rescue station is a key investment in public safety infrastructure for the expanding community.

CONTEXTUAL SITE PLAN

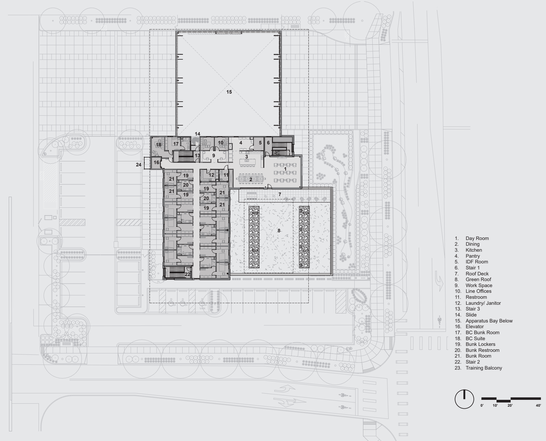


GROUND FLOOR PLAN



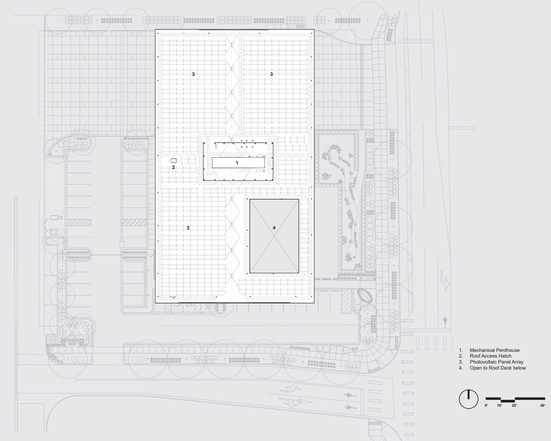
1. Main Building Entry
2. Community Lobby
3. Community Room
4. Kitchen
5. Open Admin Offices
6. Private Offices
7. Conference Rooms
8. Document Storage
9. Break Room
10. Wellness Room
11. Restrooms
12. All Gender Restrooms
13. Fitness Room
14. Shower Room
15. Janitor
16. Mechanical Room
17. EMS Supply
18. IDF Room
19. Electrical Room
20. Water Entry Room
21. Stair 1
22. Workshop
23. Bay Wash
24. SCBA Test
25. PPE Storage
26. Stair 3
27. Slide
28. PPE Wash
29. Decontamination
30. Laundry
31. Mailboxes
32. Apparatus Bay
33. Front Apron
34. Rear Apron
35. Detention Pond
36. Personnel Parking
37. Trash Enclosure
38. Transformer
39. General Parking
40. Public Art Installation

SECOND FLOOR PLAN



1. Day Room
2. Dining
3. Kitchen
4. Pantry
5. IDF Room
6. Void
7. Roof Deck
8. Green Roof
9. Work Space
10. Line Offices
11. Restroom
12. Laundry/ Janitor
13. Stair 3
14. Slide
15. Apparatus Bay Below
16. Elevator
17. BC Bunk Room
18. BC Suite
19. Bunk Lockers
20. Bunk Restrooms
21. Bunk Room
22. Stair 2
23. Training Balcony

ROOF PLAN

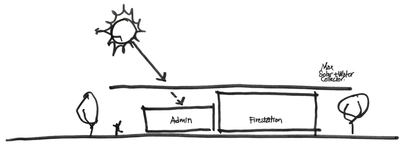


1. Mechanical Penthouse
2. Roof Access Hatch
3. Photovoltaic Panel Array
4. Open to Roof Deck below

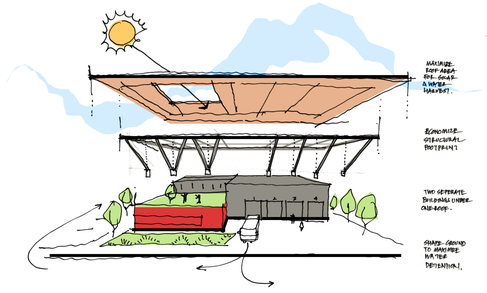
HIGH PERFORMANCE DESIGN & SUSTAINABILITY GOALS

The City of Boulder needed to replace an aging fire station with a facility that could serve the community for the next 100 years. The City's goals were ambitious: the new building had to be a model of environmental stewardship, align with Boulder's climate goals, and provide a highly sophisticated operational base that was also a secure and restorative home for its firefighting crews who are regularly responding to emergencies. A design that acts as a beacon of sustainability, organized under a single, expansive roof canopy. This sweeping roof cantilevers out in all directions. It provides a solid platform for a 207 kW PV solar array, a shelter for the large openings of the Apparatus Bay, and an opening which allows light to feed the 6,000 sf green-roof; all while unifying the varying programs and forms below. As a foundational commitment to sustainability, the design incorporated 25,000 kg of repurposed steel from the decommissioned Boulder Community Hospital down the street. The layout strategically separates the ground-floor operational zones from the second-floor living quarters to support crew well-being. These spaces include a dayroom, a large kitchen, and fitness facilities, all with direct access to an outdoor terrace and the green roof. By providing a healthy environment, the design supports the firefighters so they can better serve their community and fulfill their critical mission of public safety.

FIRE-STATION TO ADMINISTRATION RELATIONSHIP



CONCEPTUAL FRAMEWORK DIAGRAM



STEEL RE-USE - 89 steel members were re-used from the deconstructed boulder fs3. This represents about 25,000 kgco2eq of embodied carbon savings.

GREEN ROOF - The green roof above administration improves the insulation of the roof assembly, reduces urban heat, and helps to slow & manage stormwater.

PERMEABLE PAVING - Portions of the hardscape utilize permeable pavers. The pavers reduce runoff by allowing water to run through them, aiding in stormwater management.

ADMINISTRATION - Co-located with boulder fs3, the city of boulder's fire rescue administration is located on site. This enhances communication, streamlines operations, reduces costs, and fosters collaboration for efficient service.

MEMORIAL AND PUBLIC ART - In memory of william duran & scott smith. This project prioritized relocating the existing memorial and utilized public art to honor the fallen firefighters, preserving their legacy with dignity at the new fire station.

ROOF AND SHADING DEVICES - Large roof overhangs maximize space for solar panels and reduce snow build-up around the building while shade-canopies reduce unwanted sun in the summer while allowing it in the winter.

SOLAR POWER - The 28,336 sf facility has a projected eui of 56.2 and a 207 kw pv array on the roof. It is estimated that nearly 62% of the power needed will be provided by the solar on the roof.

LOWER CARBON FOOTPRINT - The use of wood structural components reduces high-emission materials like concrete & steel and promotes renewable construction practices.

100% ELECTRIC - Boulder fs3 is a fully electric building. This eliminates the need for fossil fuels while reducing greenhouse gas emissions. This station will be home to the first electric fire truck in colorado.

AROUND THE CLOCK EFFICIENCY - Efficient layout, programming & adjacencies ensure rapid response, reliability, and readiness for safe response to emergencies 24/7.

STORMWATER MANAGEMENT - A landscaped detention pond is utilized to store and gradually release excess stormwater to prevent flooding and improve water quality.

RESILIENT DESIGN - Use of simple, durable materials such as concrete, metal, and brick ensures longevity and minimal maintenance.

PIONEERING AN ALL-ELECTRIC FUTURE - The facility is a resilient building designed to support a zero-emissions future. Its all-electric design eliminates onsite fossil fuels and makes it the first in Colorado equipped to house an electric fire truck. By enabling next-generation technology, the building becomes an active catalyst for the future of public safety, not just a passive structure.

GREEN ROOF FOR HEALTHY LIVING & STORMWATER MANAGEMENT - The green roof offers several beneficial biophysical effects. It helps regulate indoor temperatures by reducing heat gain in summer and heat loss in winter. The roof absorbs rainwater, slowing stormwater. It dampens noise from wind, rain, and urban activity, creating a quieter indoor environment.

LAYOUT FOR EASY FLOW & QUICK RESPONSE - The fire station layout fine-tunes spatial adjacencies to minimize response time by placing living quarters in direct, linear alignment with the apparatus bay. Eliminating 90-degree turns ensures a swift, unobstructed path of travel, enhancing firefighter safety and accelerating turnout during emergencies.

STRENGTH FOR SERVICE - The fitness room is designed to provide a variety of physical training opportunities for crews to maintain both cardiovascular health & strength training. The roll-up doors allow for indoor-outdoor training when the weather is nice.